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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,619	11/24/2003	Edward Julius Creighton	TS0932 (US)	4247

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EXAMINER
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SAMPLE, DAVID R

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,619	<b>Applicant(s)</b> CREYGHTON ET AL.	
	<b>Examiner</b> David Sample	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 10-16 is/are allowed.
- 6) ☒ Claim(s) 9, 17-22 and 24-30 is/are rejected.
- 7) ☒ Claim(s) 8 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Any rejections and/or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Objections***

Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 8 recites that the catalyst of claim 1 comprises a binder. Claim 1 already recites that catalyst contains a binder.

#### ***Claim Rejections - 35 USC § 103***

Claims 9, 17-22 and 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward (US Patent No. 5,536,687) in view of Cooper et al. (US Patent No. 5,242,677).

Ward et al. discloses a hydrocracking catalyst containing zeolite Y and zeolite beta. See the abstract. The zeolite Y should have a unit cell size of less than 24.45 Å. Id. Such catalysts have a higher activity and selectivity for light gasoline and turbine fuel. See col. 3, lines 7-10.

Furthermore, the catalyst most preferably contains both nickel and molybdenum or nickel and tungsten. See col. 8, lines 35-39.

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Ward differs from the instant claims by failing to disclose the particulars of the zeolite Y other than to state that the zeolite should have a unit cell size of less than 24.45.

Cooper et al. discloses a zeolite Y having a  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio of 40-70, a surface area of 700-900  $\text{m}^2/\text{gm}$ , and a unit cell size of 24.09-24.14 Å. See col. 4, lines 42-45. These ranges overlap the ranges for these properties recited in instant claim 9. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

The reference does not specifically disclose the method of measuring the surface area, however, lacking evidence to the contrary, one of ordinary skill in the art would expect a zeolite to have the same surface area regardless of the method of measuring the surface area.

Accordingly, it would have been obvious at the time the invention was made to have used any zeolite Y having a unit cell size of less than 24.45 Å in the catalyst of Ward including the catalyst of Cooper et al. because the resultant catalyst has a higher activity and selectivity for light gasoline and turbine fuel.

It is noted that claim 9 is a product-by-process. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure of a zeolite having a catalyst containing molybdenum, tungsten, cobalt, nickel or mixtures, a unit cell size of 24.10-24.40 Å, a silica/alumina ratio of greater than 12, and a surface area of greater than 850  $\text{m}^2/\text{g}$ . For the reasons stated above, the reference suggests such a product.

The recitations of instant claims 21, and 25-27 can be found in Ward at col. 3, lines 7-10 and col. 9, lines 64-68.

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The alkali metal levels,  $\text{SiO}_2/\text{Al}_2\text{O}_3$ , and calcining temperature of Cooper et al. overlap the ranges recited in claim 9. Again, overlapping ranges have been held to establish *prima facie* obvious.

The particulars of the hydrocracking process recited in claims 17 and 22 can be found in Ward at column 10 line 39 to column 11, line 25.

### ***Response to Arguments***

Applicant's arguments filed February 2, 2006 have been fully considered but they are not persuasive.

Applicants argue that the rejection over Ward in view of Cooper is not proper because Cooper et al. fails to disclose the particulars of the method steps recited in claim 9. This argument is not deemed persuasive for the reasons stated above. In particular, claim 9 is a product-by-process claim in which patentability is determined by the product, not the manipulation of the recited steps, and the combination of references suggest the presently claimed product.

### ***Allowable Subject Matter***

Claims 1-7 and 10-16 are allowed. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

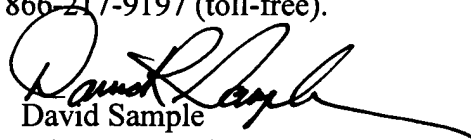
The prior art fails to disclose or suggest a zeolite having the combination of recited properties, or a process of employing such a zeolite.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Sample  
Primary Examiner  
Art Unit 1755